Claims

1. Compounds of the general formula I,

wherein

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 R^1 represents lower alkyl-O-(CH₂)_n-, cycloalkyl-O-(CH₂)_n-, cycloalkyl-CH₂-O-(CH₂)_n-;

10 R^2 represents -CH₃; R^a -Y-(CH₂)_m-;

R³ represents aryl; heteroaryl;

R4 represents hydrogen; trifluoromethyl; lower alkyl; lower alkyl-amino; lower alkyloxy; lower alkyloxy-lower alkyloxy; hydroxy-lower alkyloxy; lower alkylsulfinyl; lower alkylthio; lower alkylthio-lower alkyl; hydroxy-lower alkyl; lower alkyloxy-lower alkyl; hydroxy-lower alkyloxy-lower alkylamino; lower alkylamino-lower alkyl; amino; di-lower alkylamino; [N-(hydroxylower alkyl)-N-(lower alkyl)]-amino; aryl; arylamino; aryl-lower alkylamino; arylthio; aryl-lower alkylthio; aryloxy; aryl-lower alkyloxy; aryl-lower alkyl; arylsulfinyl; heteroaryl; heteroaryl-oxy; heteroarylamino; heteroarylthio; heteroaryl-lower alkyl; heteroarylsulfinyl; heterocyclyl; heterocyclyl-lower alkyloxy; heterocyclyloxy; heterocyclylamino; heterocyclyl-lower alkylamino; heterocyclylthio; heterocyclylcycloalkyl; heterocyclylsulfinyl; heterocyclyl-lower alkyl; lower alkylthio;

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cycloalkyloxy; cycloalkyl-lower alkyloxy; cycloalkylamino; cycloalkyl-lower alkylamino; cycloalkyl-lower alkyl; cycloalkyl-lower alkyl; cycloalkylsulfinyl;

5 R⁶ represents hydrogen or methyl;

X represents oxygen; sulfur; -CH₂- or a bond;

Y represents a bond, -O-; -NH-; -SO₂-NH-; -NH-SO₂-NH-; -O-CO-; -CO-O-; -O-CO-NH-; -NH-CO-O-; -NH-CO-NH-;

n represents the integers 2, 3, or 4;

m represents the integers 2, 3, or 4;

Ra represents aryl, heteroaryl, lower alkyl, cycloalkyl, hydrogen;

and optically pure enantiomers, mixtures of enantiomers such as for example racemates, optically pure diastereomers, mixtures of diastereomers, diastereomeric racemates, mixtures of diastereomeric racemates and the mesoforms and pharmaceutically acceptable salts thereof.

- 2. Compounds of general formula I in claim 1, wherein R¹, R², R⁴ and R⁶ are as defined in general formula I in claim 1, R³ represents phenyl, mono- or disubstituted phenyl substituted with ethoxy, methoxy or chlorine and X represents oxygen, and pharmaceutically acceptable salts thereof.
- 3. Compounds of general formula I in claim 1, wherein R¹, R⁴ and R⁶ are as defined in general formula I in claim 1, R³ represents phenyl, mono- or disubstituted phenyl substituted with ethoxy, methoxy or chlorine, X represents oxygen and R² represents –(CH₂)_m-Y-R^a, and pharmaceutically acceptable salts thereof.

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4. Compounds of general formula I in claim 1, wherein R^1 , R^4 and R^6 are as defined in general formula I in claim 1, R^3 represents phenyl, mono- or disubstituted phenyl substituted with ethoxy, methoxy or chlorine, X represents oxygen and R^2 represents $-(CH_2)_2-O-R^a$, with R^a being heteroaryl, and pharmaceutically acceptable salts thereof.

5. Compounds of formula II

wherein R^1 , R^2 , R^3 and R^4 are as defined in general formula 1 in claim 1, and pharmaceutically acceptable salts of compounds of formula II.

6. Compounds of formula III

wherein R¹, R² and R⁴ are as defined in general formula I in claim 1 and A represents hydrogen, methyl, ethyl, chlorine, bromine, fluorine, trifluoromethyl or methoxy, and pharmaceutically acceptable salts of compounds of formula III.

10 7. Compounds of formula IV

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wherein R¹, R⁴ and **m** are as defined in general formula I in claim 1, **A** represents hydrogen, methyl, ethyl, chlorine, bromine, fluorine, trifluoromethyl or methoxy, and R⁵ represents aryl or heteroaryl, and pharmaceutically acceptable salts of compounds of formula IV.

8. Compounds of formula V

wherein R¹ is as defined in general formula I in claim 1, A represents hydrogen, methyl, ethyl, chlorine, bromine, fluorine, trifluoromethyl or methoxy and R⁵ represents aryl or heteroaryl, and pharmaceutically acceptable salts of compounds of formula V.

- 9. Compounds of formula V wherein R¹ is as defined in general formula I in claim 1, A represents hydrogen, methyl, ethyl, chlorine, bromine, fluorine, trifluoromethyl or methoxy and R⁵ represents a substituted pyrimidine, and pharmaceutically acceptable salts of compounds of formula V.
- 10. Compounds of general formula I in claim 1, wherein R¹ represents CH₃-O-CH₂CH₂-, R⁶ represents hydrogen and R², R³, and R⁴ are as defined in general formula I in claim 1, and pharmaceutically acceptable salts of compounds thereof.

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- 11. Compounds of formula V in claim 8, wherein R¹ represents CH₃-O-CH₂CH₂-, A represents hydrogen, methyl, ethyl, chlorine, bromine, fluorine, trifluoromethyl or methoxy and R⁵ represents aryl or heteroaryl, and pharmaceutically acceptable salts of compounds of formula V in claim 8.
- 12. Compounds selected from the group consisting of:
- 2-Methoxy-ethanesulfamic acid [6-[2-(5-bromo-pyrimidin-2-yloxy)-ethoxy]-5-(2-chloro-5-methoxy-phenoxy)-pyrimidin-4-yl]-amide;
 - 2-Methoxy-ethanesulfamic acid {5-(4-bromophenyl)-6-[2-(5-bromopyrimidin-2-yloxy)-ethoxy]-pyrimidin-4-yl}-amide;
- 2-Methoxy-ethanesulfamic acid {5-(4-bromophenyl)-6-[2-(5-methylsulfanyl-pyrimidin-2-yloxy)-ethoxy]-pyrimidin-4-yl}-amide;
 - 2-Methoxy-ethanesulfamic acid {5-(4-bromophenyl)-6-[2-(5-methoxypyrimidin-2-yloxy)-ethoxy]-pyrimidin-4-yl}-amide.
 - 13. Compounds of any one of the claims 1 to 12 for use as medicaments for the treatment of disorders which are associated with a role of endothelin.
- 14. Compounds of any one of the claims 1 to 12 for use as medicaments for the treatment of circulatory disorders which are associated with a role of endothelin.
 - 15. Compounds of any one of the claims 1 to 12 for use as medicaments for the treatment of inflammatory disorders which are associated with a role of endothelin.
 - 16. Compounds of any one of the claims 1 to 12 for use as medicaments for the treatment of proliferative disorders which are associated with a role of endothelin.
- 17. Compounds of any one of the claims 1 to 12 for use as medicaments for the treatment of hypertension, coronary diseases, cardiac insufficiency, renal and myocardial ischemia, renal failure, cerebral ischemia, dementia, migraine,

subarachnoidal hemorrhage, Raynaud's syndrome, portal hypertension, pulmonary hypertension, atherosclerosis, prevention of restenosis after balloon or stent angioplasty, inflammation, pulmonary fibrosis, connective tissue diseases, stomach and duodenal ulcer, digital ulcer, cancer, prostatic hypertrophy, erectile dysfunction, hearing loss, amaurosis, chronic bronchitis, asthma, gram negative septicemia, shock, sickle cell anemia, glomerulonephritis, renal colic, glaucoma, complications of vascular or cardiac surgery or after organ transplantation, and complications of cyclosporin, the therapy and prophylaxis of diabetic complications.

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- 18. Compounds of any one of the claims 1 to 12 for use as medicaments for the treatment of disorders which are associated with a role of endothelin, and require mixed ET_A and ET_B blocking for treatment.
- 19. Compounds of any one of the claims 1 to 12 for use as medicaments for the treatment of disorders which are associated with a role of endothelin, and require selective ET_A blocking for treatment.
- 20. Compounds of any one of the claims 1 to 12 for use as medicaments for the treatment of disorders which are associated with a role of endothelin, and require selective ET_B blocking for treatment.
 - 21. The use of one or more compounds of any one of claims 1 to 12 as active ingredients for the production of pharmaceutical compositions for the treatment of disorders associated with a role of endothelin.
 - 22. The use of one or more compounds of any one of claims 1 to 12 as active ingredients for the production of pharmaceutical compositions for the treatment of circulatory disorders which are associated with a role of endothelin.

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23. The use of one or more compounds of any one of claims 1 to 12 as active ingredients for the production of pharmaceutical compositions for the treatment of inflammatory disorders which are associated with a role of endothelin.

24. The use of one or more compounds of any one of claims 1 to 12 as active ingredients for the production of pharmaceutical compositions for the treatment of proliferative disorders which are associated with a role of endothelin.

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25. The use of one or more compounds of any one of claims 1 to 12 as active ingredients for the production of pharmaceutical compositions for the treatment of hypertension, coronary diseases, cardiac insufficiency, renal and myocardial ischemia, renal failure, cerebral ischemia, dementia, migraine, subarachnoidal hemorrhage, Raynaud's syndrome, portal hypertension, pulmonary hypertension, atherosclerosis, prevention of restenosis after balloon or stent angioplasty, inflammation, pulmonary fibrosis, connective tissue diseases, stomach and duodenal ulcer, digital ulcer, cancer, melanoma, prostatic cancer, prostatic hypertrophy, erectile dysfunction, hearing loss, amaurosis, chronic bronchitis, asthma, gram negative septicemia, shock, sickle cell anemia, glomerulonephritis, renal colic, glaucoma, therapy and prophylaxis of diabetic complications, complications of vascular or cardiac surgery or after organ transplantation, and complications of cyclosporin.

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26. The use of one or more compounds of any one of claims 1 to 12 as active ingredients in combination with one or more other substances therapeutically useful for the treatment of hypertension, coronary diseases, cardiac insufficiency, renal and myocardial ischemia, renal failure, cerebral ischemia, dementia, migraine, subarachnoidal hemorrhage, Raynaud's syndrome, portal hypertension, pulmonary hypertension, atherosclerosis, prevention of restenosis after balloon or stent angioplasty, inflammation, pulmonary fibrosis, connective tissue diseases, stomach and duodenal ulcer, digital ulcer, cancer, melanoma, prostatic cancer, prostatic hypertrophy, erectile dysfunction, hearing loss, amaurosis, chronic bronchitis, asthma, gram negative septicemia, shock, sickle cell anemia, glomerulonephritis, renal colic, glaucoma, therapy and prophylaxis of diabetic complications, complications of vascular or cardiac surgery or after organ transplantation, and complications of cyclosporin.

27. A process for the manufacture of pharmaceutical compositions for the treatment of disorders associated with a role of endothelin containing one or more compounds as claimed in any one of claims 1 to 12 as active ingredients which process comprises mixing one or more active ingredients with pharmaceutically acceptable excipients in a manner known per se.